UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,533	02/05/2004	Dan Teodosiu	13768.783.7	5407

47973 7590 02/04/2009
WORKMAN NYDEGGER/MICROSOFT
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CTY, UT 84111

EXAMINER	
SYED, FARHAN M	
ART UNIT	PAPER NUMBER
2165	

MAIL DATE	DELIVERY MODE
02/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/772,533	TEODOSIU ET AL.	
	Examiner	Art Unit	
	FARHAN M. SYED	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 23-36 are pending. Claims 1-22 were previously cancelled by Applicant. No claims were amended.

Response to Remarks/Argument

2. Applicant's arguments filed 15 December 2008 have been fully considered but they are not persuasive for the reasons set forth below.

Applicant argues:

(1) "The Applicant submits that 'copying contents and permission' cannot be equated with 'mapping all data access requests'."

The Examiner disagrees. The combination of Taylor and Eastep teach copying contents or permission (i.e. *"In Stage 1, the intermediate device 10 maps all data access requests identifying the data set subject of the transfer and received on interface to link 13, to the link 14 for connection to the device 11, which stores the data set subject of the request. During the hot copy process, data access requests are mapped to the first device 11 and the second device 12 depending on the progress of the hot copy, and on the type of request."* The preceding text clearly indicates that during the hot copy process, data access requests are mapped to the first device. That is, the data access requests include copying contents and/or permissions.)(see column 5, lines 60-67; column 6, lines 1-6).

(2) "There is no mention in the cited portion of Taylor to a legacy server name which is aliased such that it resolves to a network address of a consolidated server."

The Examiner disagrees. Taylor teach aliasing the legacy share server name to resolve to the network address of a consolidation server (*"...Internet Protocol are used over*

the communication links carrying storage transactions on a variety of media in a variety of protocols." The Examiner interprets the use of internet protocol (IP) to include the ability to alias. That is an IP address would bind to a DNS address and therefore the DNS address would be alias to the IP address. Similarly, the legacy shared server name (i.e. DNS address) is resolved to the network address (i.e. IP address) of the consolidation server. The Examiner further notes that the concept of aliasing is well known to those skilled in the art.)(column 6, lines 38-60).

(3)"Using 'typical [UNIX-like] names' fails to teach or suggest in any way creating a server root and fails to teach that the server root is associated with the legacy server."

The Examiner disagrees. The combination of Taylor and Eastep teach creating a legacy server root (i.e. *"for directories, the user can specify that a directory can be created or deleted…"* The creation of a directory can include creating a legacy server root.)(column 1, lines 40-42) associated with the name of the legacy server (i.e. *"…rather than use the descriptive names of, e.g., "directory 1" or "file1", etc., more typical names are used such as would be encountered in a UNIX-like system."* The Examiner interprets name of legacy server and consolidated server as typical names provided in a directory-enabled system.)(column 2, lines 17-20) on the consolidation server (i.e. *"…operating system allows a user to create, access, and manipulate files and directories within a directory structure…"* The Examiner notes that a consolidated server (i.e. server) contains an operating system (such as Windows OS, UNIX OS), in which the OS allows the server to create, access, name, and manipulate files and directories and associate it to a root directory.)(column 1, lines 35-39; see also Figure 1A.

(4) "The Applicant submit that the cited passage fail to teach or suggest any request being received at a consolidation server from a client for a legacy share path name."

The Examiner disagrees. The combination of Taylor and Eastep teach receiving at the consolidation server request from a client for the legacy share path name (*"In one embodiment, when the data access request comprises a request to write data in the data set, the data transfer resources direct the data access request to both the first and second storage devices if the request identifies data already copied to the second device."* The preceding text clearly suggests that any request is being received at the consolidation server (i.e. servers).)(Taylor, column 2, lines 40-55) (*FIG. 1B is an example of a directory tree structure in a UNIX.RTM.-like operating system. Rather than use the descriptive names of, e.g., "directory1," "file1," etc., more typical names are used such as would be encountered in a UNIX.RTM.-like system. For example, the root directory is given the label "/" while the two directories shown in FIG. 1B are labelled "usr" and "usr1". Note also, in FIG. 1B, that the names for directories and files (e.g., files "x," "y," and "z") are placed adjacent to the edges of the graph of the directory structure." "In order to translate, or "resolve" a pathname to an inode number (i.e., a file-handle) the names adjacent to edges in the graph are combined proceeding from the root directory to the file desired."*)(Eastep, column 2, lines 16-45; column 3, lines 35-40).

(5) "Independent claim 36 incorporates the limitations recited in claim 23 and therefore as discussed above, applies also to claim 36."

The Examiner disagrees and has incorporated this argument in the above arguments (1)-(5). Therefore, for reasons similar, claim 36 stands rejected.

Hence, the Applicant's arguments do not distinguish over the claimed invention over the prior art of record.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 23-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al (U.S. Patent 6,654,830 B1 and known hereinafter as Taylor)(previously presented) in view of a Eastep (U.S. Patent 5,566,328)(previously presented) and in further view of non-patent literature titled "A Scalable Content Distribution Service for Dynamic Web Content" by Seejo Sebastine, University of Virginia, 15 June 2001 (and known hereinafter as Sebastine)(previously presented).

As per claim 23, Taylor teaches a method in a client-server computing network for reorganizing storage and accessing the reorganized storage (i.e. *"A storage network that facilitates the transfer of a data set from a first storage device to a second storage device, without blocking access to the data set during the transfer..."*(Abstract), the method comprising: relocating a legacy share from a legacy server to a new server (Figure 1 illustrates relocating a legacy share (i.e. LUN A) from a legacy share (i.e. Device X) to a new server (i.e. Device Y).)(Figure 1); copying contents and permissions of the legacy share to the new server (i.e. *"...the intermediate device maps all data access requests identifying the data set subject of the transfer and received on interface to link..."* The Examiner interprets copying contents and permission as mapping all data access requests.)(column 5, lines 60-62); aliasing the legacy share server name to resolve to the network address of a consolidation server (*"...Internet Protocol are used over the*

communication links carrying storage transactions on a variety of media in a variety of protocols." The Examiner interprets the use of internet protocol to include the ability to alias. That is an IP address would bind to a DNS address and therefore the DNS address would be alias to the IP address. Similarly, the legacy shared server name (i.e. DNS address) is resolved to the network address (i.e. IP address) of the consolidation server. The Examiner further notes that the concept of aliasing is well known to those skilled in the art.)(column 6, lines 38-60).

Taylor does not explicitly teach creating a legacy server root associated with the name of the legacy server on the consolidation server; creating a link on the legacy server root corresponding to the legacy share on the new server; resolving the legacy server name that is aliased to the consolidated server; receiving at the consolidation server request from a client for the legacy share path name.

Eastep teaches creating a legacy server root (i.e. *"for directories, the user can specify that a directory can be created or deleted…"* The creation of a directory can include creating a legacy server root.)(column 1, lines 40-42) associated with the name of the legacy server (i.e. *"…rather than use the descriptive names of, e.g., "directory 1" or "file1", etc., more typical names are used such as would be encountered in a UNIX-like system."* The Examiner interprets name of legacy server and consolidated server as typical names provided in a directory-enabled system.)(column 2, lines 17-20) on the consolidation server (i.e. *"…operating system allows a user to create, access, and manipulate files and directories within a directory structure…"* The Examiner notes that a consolidated server (i.e. server) contains an operating system (such as Windows OS, UNIX OS), in which the OS allows the server to create, access, name, and manipulate files and directories and associate it to a root directory.)(column 1, lines 35-39; see also Figure 1A); creating a link on the legacy server root corresponding to the legacy share on the new server (Figures 1C and 1D established creating a link on a legacy server root (i.e. "/").)(Figures 1C, 1D); resolving the legacy server name that is

aliased to the consolidated server (i.e. *"The process of locating a file using a mathname is called pathname resolution. The product of pathname resolution is a file handle. A file handle is used by the operating system internally to refer to a file without having to resolve the file's name again…"*)(column 2, lines 55-67; column 3, lines 1-5); receiving at the consolidation server request from a client for the legacy share path name (column 3, lines 35-40).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Taylor with the teachings of Eastep to include creating a legacy server root associated with the name of the legacy server on the consolidation server; creating a link on the legacy server root corresponding to the legacy share on the new server; resolving the legacy server name that is aliased to the consolidated server; receiving at the consolidation server request from a client for the legacy share path name with the motivation to simplify management of storage systems, in particular the migration of data from one device to another (Taylor, column 2, lines 5-7).

The combination of Taylor and Eastep do not explicitly teach the consolidation server rewriting the legacy share path name by prepending the legacy share path with the consolidation server's own name; the consolidation server traversing the rewritten legacy share path name and resolving links within the rewritten legacy share path name; and the consolidation server responding to the client request with the share path name of the storage location of the relocated legacy share.

Sebstine teaches a method comprising the consolidation server rewriting the legacy share path name by prepending the legacy share path with the consolidation server's own name (i.e. "By default, Squid rewrites any HTTP "Host:" headers in redirected requests

to point to the new host to which the URL has been redirected,")(Section 4.1.1; Appendix A); the consolidation server traversing the rewritten legacy share path name and resolving links within the rewritten legacy share path name (i.e. "The URL rewriter module handles the job of rewriting the (redirected) URLs that the *active server* receives to fetch the script from the original content server. The address of the content server is specified in the HTTP "Host:" header as elucidated in section 4.1.1. We have used the functionality provided by Apaches *"mod rewrite"* module to perform the URL rewriting. A sample rewrite-rule that can be used is given below: RewriteRule ^/cgi-bin/(.*$) http://%{HTTP_HOST}/cgi-bin/$1 [P]. This rule states that all URLs which are meant to be served from the *cgi-bin* directory are to be rewritten to be served from the same directory, but on the host specified by the HTTP HOST environment variable. Since we wish to cache the script that is returned, we force this request to be a proxy request (indicated by [P]).")(Section 4.2.1); and the consolidation server responding to the client request with the share path name of the storage location of the relocated legacy share (i.e. "The URL rewriter module handles the job of rewriting the (redirected) URLs that the *active server* receives to fetch the script from the original content server. The address of the content server is specified in the HTTP "Host:" header as elucidated in section 4.1.1. We have used the functionality provided by Apaches *"mod rewrite"* module to perform the URL rewriting. A sample rewrite-rule that can be used is given below: RewriteRule ^/cgi-bin/(.*$) http://%{HTTP_HOST}/cgi-bin/$1 [P]. This rule states that all URLs which are meant to be served from the *cgi-bin* directory are to be rewritten to be served from the same directory, but on the host specified by the HTTP HOST environment variable. Since we wish to cache the script that is returned, we force this request to be a proxy request (indicated by [P]).")(Section 4.2.1).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Taylor with the teachings of Eastep and with the further teachings of Sebastine to include the consolidation server rewriting the legacy share path name by prepending the legacy share path with the consolidation

server's own name; the consolidation server traversing the rewritten legacy share path name and resolving links within the rewritten legacy share path name; and the consolidation server responding to the client request with the share path name of the storage location of the relocated legacy share with the motivation to simplify management of storage systems, in particular the migration of data from one device to another (Taylor, column 2, lines 5-7).

As per claim 24, Taylor teaches a method further comprising resolving an aliased legacy server name to establish a connection to the network address of a server (i.e. "Input to the routine is a file id, the address of the specific host (hs_host) of the desired file and the rights desired for the file.")(Column 14, lines 36-38).

As per claim 25, Taylor teaches a method further comprising sending an access request to the new server for the legacy share path name (i.e. "File specific server layer 208 is the layer that transforms SMBparser requests into cache and physical file system requests and also interfaces with the DFS token management service to manage the sharing of files between clients.")(Column 4, lines 44-48).

As per claim 26,Taylor teaches a method wherein the consolidation server and the new server are the same server (i.e. "DFS/DCE client software provides caches of files and directories to avoid network traffic. Additionally, they cache byte range locks, file opens and closes. To facilitate this, a token management scheme is used. If a client has a token with the needed rights for a file or directory, it can cache the data for that file or directory. It obtains these tokens from the central token manager (e.g., DFS token manager 214) residing at the file server.")(Column 5, lines 6-13).

As per claim 27, Taylor and Eastep do not explicitly teach a method wherein rewriting the legacy share path comprises invoking a path rewriter to rewrite the legacy share path.

Sebastine teaches a method wherein rewriting the legacy share path comprises invoking a path rewriter to rewrite the legacy share path (i.e. "By default, Squid rewrites any HTTP "Host:" headers in redirected requests to point to the new host to which the URL has been redirected,")(Section 4.1.1; Appendex A).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Taylor with the teachings of Sebastine to include a method wherein rewriting the legacy share path comprises invoking a path rewriter to rewrite the legacy share path with the motivation to simplify management of storage systems, in particular the migration of data from one device to another (Taylor, column 2, lines 5-7).

As per claim 28, Taylor and Eastep do not explicitly teach a method further comprising encountering a link while traversing the rewritten legacy share path.

Sebastine teaches a method further comprising encountering a link while traversing the rewritten legacy share path (i.e. "Each script must be linked with this library in order to function correctly."" The Rewrite Rules Configuration File specifies a regular expression based pattern, which if matched results in the rest of the rule being executed. Just as in the Access Control List, the rules are matched in a linear order and hence the order of the rules is important.")(Section 4.2.4; Appendex A.4).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Taylor with the teachings of Sebastine to include a method further comprising encountering a link while traversing the rewritten legacy share path with the motivation to simplify management of storage systems, in particular the migration of data from one device to another (Taylor, column 2, lines 5-7).

As per claim 29, Taylor and Eastep do not explicitly teach a method wherein resolving any links in the rewritten legacy share path comprises invoking a path redirector to resolve any links in the rewritten legacy share path.

Sebastine teaches a method wherein resolving any links in the rewritten legacy share path comprises invoking a path redirector to resolve any links in the rewritten legacy share path (i.e. "Each script must be linked with this library in order to function correctly." "The Rewrite Rules Configuration File specifies a regular expression based pattern, which if matched results in the rest of the rule being executed. Just as in the Access Control List, the rules are matched in a linear order and hence the order of the rules is important.")(Section 4.2.4; Appendex A.4).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Taylor with the teachings of Sebastine to include a method wherein resolving any links in the rewritten legacy share path comprises invoking a path redirector to resolve any links in the rewritten legacy share path with the motivation to simplify management of storage systems, in particular the migration of data from one device to another (Taylor, column 2, lines 5-7).

As per claim 30, Taylor teaches a method further comprising accessing the share path of the storage location of the relocated legacy share (i.e. "The method includes, for instance, accessing a file by a first client of the computing environment, the first client having a first protocol; and accessing the file by a second client of the computing environment, the second client having a second protocol. The second protocol is different from the first protocol, and wherein a change to the file by one of the first client and the second client is reflected to the other of the first client and the second client, thereby providing cache consistency.")(Column 2, lines 1-11).

As per claim 31, Taylor teaches a method wherein accessing the share path of the storage location of the relocated legacy share comprises sending a Dfs create request to the network address of the storage location of the relocated legacy share (i.e. "DFS token manager 214 is the layer of the file server used to manage the tokens needed by the clients to access files. For example, DFS/DCE clients obtain tokens before performing an operation locally. That is, they use tokens to allow them to cache data, status and byte range locks without requiring a communication (e.g., a remote procedure call (RPC)) with the server; thus, reducing network traffic and increasing the access speed to remote files. A token represents a client's right to cache the data and it may represent its right to perform an operation.") (Column 4, lines 62-67).

As per claim 32, Taylor teaches a method of claim 30 wherein accessing the share path of the storage location of the relocated legacy share comprises accessing a path of a separate Dfs namespace (i.e. "DFS token manager 214 is the layer of the file server used to manage the tokens needed by the clients to access files. For example, DFS/DCE clients obtain tokens before performing an operation locally. That is, they use tokens to allow them to cache data, status and byte range locks without requiring a communication (e.g., a remote procedure call (RPC)) with the server; thus, reducing network traffic and increasing the access speed to remote files. A token

represents a client's right to cache the data and it may represent its right to perform an operation.") (Column 4, lines 62-67).

As per claim 33, Taylor teaches a method further comprising encountering a Dfs reparse point while traversing the rewritten legacy share path (i.e. "DFS token manager 214 is the layer of the file server used to manage the tokens needed by the clients to access files. For example, DFS/DCE clients obtain tokens before performing an operation locally. That is, they use tokens to allow them to cache data, status and byte range locks without requiring a communication (e.g., a remote procedure call (RPC)) with the server; thus, reducing network traffic and increasing the access speed to remote files. A token represents a client's right to cache the data and it may represent its right to perform an operation.") (Column 4, lines 62-67).

As per claim 34, Taylor teaches a method further comprising returning a message to the client indicating the path contains a link (i.e. "DFS token manager 214 is the layer of the file server used to manage the tokens needed by the clients to access files. For example, DFS/DCE clients obtain tokens before performing an operation locally. That is, they use tokens to allow them to cache data, status and byte range locks without requiring a communication (e.g., a remote procedure call (RPC)) with the server; thus, reducing network traffic and increasing the access speed to remote files. A token represents a client's right to cache the data and it may represent its right to perform an operation.") (Column 4, lines 62-67).

As per claim 35, Taylor teaches a method further comprising receiving a referral request message from the client for the referral path (i.e. "DFS token manager 214 is the layer of the file server used to manage the tokens needed by the clients to access files. For example, DFS/DCE clients obtain tokens before performing an operation locally. That is, they use tokens to allow

them to cache data, status and byte range locks without requiring a communication (e.g., a remote procedure call (RPC)) with the server; thus, reducing network traffic and increasing the access speed to remote files. A token represents a client's right to cache the data and it may represent its right to perform an operation.") (Column 4, lines 62-67).

As per claim 36, Taylor teaches a computer readable medium having computer-executable instructions for performing the method of claim 23 (i.e. "The media has embodied therein, for instance, computer readable program code means for providing and facilitating the capabilities of the present invention.")(Column 19, lines 35-37).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhan M. Syed whose telephone number is 571-272-7191. The examiner can normally be reached on 8:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/F. M. S./
Examiner, Art Unit 2165

/Christian P. Chace/
Supervisory Patent Examiner, Art Unit 2165